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EXCISION OF THE SHOULDER-JOINT

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The rarest of all joints that the surgeon is called upon to treat is the shoulder-joint. Especially is this the case as regards tuberculous disease. Dr. James K. Young, of the University of Pennsylvania, reports that in 2292 cases of orthopædic affections treated in the Orthopædic Department of the Hospital of the University of Pennsylvania there were only two cases of this affection. The present writer, having become especially interested in the subject of excision of the shoulder, on account of the rare case herein to be reported somewhat in detail, has looked up the literature on the subject so far as possible, and has been able to find the report of but very few cases. The text-books dispose of the subject in a very few words; all, however, agree that excision for relief of extensive osteitis of the head of the humerus is fully justified by the excellent results obtained functionally as well as the complete cure of the disease.

Excision of the shoulder should never be done as a routine practice, as a natural cure under a conservative treatment is the most desirable; for even with an absolutely ankylosed joint the patient has an exceedingly useful arm, chiefly on account of the free motion of the scapula, to which the head of the humerus may be firmly attached by bony union. In either case in the vast majority of cases almost every motion can be effected except an overhead one, since the arm cannot be raised above the shoulder.

Excision of the shoulder in gunshot injuries is now well recognized as an operation of great value, a fact well demonstrated in our recent wars. In gunshot injuries there is seldom any necessity for the removal of more than the head of the humerus; the same is true in ununited fractures of the neck of the humerus as well as in disease, for it is extremely

rare that more than the head of the bone is involved in an osteitis. The writer has been unable to find the report of any case of excision of the shoulder in which more than the head and neck has been removed. This fact is especially interesting in connection with the case here reported, in which seven and one-half inches of the humerus, with the head, had to be excised to remove all of the diseased bone, leaving the patient a very useful arm. Regarding the technique of excision of the shoulder, the writer will quote from Bradford and Lovett's excellent book on orthopædic surgery, as follows:

"The longitudinal incision is in general the most useful. The periosteum is divided with a bone knife inserted along the inner border of the bicipital groove. The arm is rotated both outward and inward, and the periosteum and muscular attachments are removed as they appear. The head can be removed with the keyhole or chain saw, removing as much of the bone as is diseased. The operation is performed subperiosteally, and the head of the bone is thrown out of the wound and sawed off. In after-treatment very good fixation can be obtained by bandaging the arm to the side with a thick pad between the body and the inner side of the arm. Plaster-of-Paris dressing around the chest and arm affords the best fixation; and after the need of complete fixation is passed a sling answers every purpose. Passive motion should be begun as soon after the operation as possible, if it is desired to obtain a movable joint; but the surgeon in that way runs the risk of making a flail-joint, inasmuch as but little of the ligamentous structure has been preserved. Ankylosis of the shoulder is of comparatively slight importance in comparison to obtaining a stable joint, on account of the mobility which the shoulder-blade possesses, so that passive motion should not be begun too early, and in many cases should not be undertaken at all."

Miss R., aged thirty years. Personal history good, with the exception of the trouble with the left shoulder. Patient is a well-developed young woman, five feet five inches tall, and usually weighs about one hundred and twenty pounds, and is of a decided brunette type. She has always been strong and hearty, with the exception above noted. She is one of a large

family, nine children, the youngest nine years old, all healthy except one sister, who died recently of consumption at the age of thirty-two years. Father and mother are living and enjoying good health. At the age of five years the patient received a severe injury in the left shoulder, which, in a few days following the injury, began to swell and soon developed a purulent synovitis. A large quantity of pus was evacuated from the joint, suppuration with a profuse discharge continued for several years, but finally ceased, and all sinuses closed. When between eight and nine years old abscesses began to form one after another over the shoulder, in the axilla, and along the anterior aspect of the arm to within a few inches of the elbow. Sinuses at the seat of these abscesses continued to discharge for several years. Then for about nine years the sinuses remained closed, but during this period the patient says she was never free from pain. At the end of this time another crop of abscesses began to appear, which were incised one after another, leaving discharging sinuses which existed at the time she came under my charge in January, 1899. During this period of twenty-five years this patient had received the most conservative treatment, the abscesses being simply incised as they appeared. Many small pieces of necrotic bone came away. Upon examination I found the general condition of the patient good, all of the vital organs being in normal condition. There were six or eight sinuses situated chiefly on the anterior aspect of the shoulder and arm, extending nearly to the elbow-joint, all discharging a thick, creamy, foul-smelling pus. Dead bone was detected with the probe at the bottom of each sinus.

Operative measures were advised and accepted. On January 18, 1899, a free longitudinal incision was made about three inches long, and an attempt was made with chisel and curette to remove the dead bone; but before proceeding very far there was discovered a large sequestrum enveloped in newly-formed bone with numerous sinuses extending through it. The diseased bone was so extensive that it was impossible to remove it all without doing an excision, and as this radical procedure had not been anticipated or advised it was postponed to gain the consent of the patient.

Consent having been obtained to do whatever I thought best, on April 19th I excised seven and one-half inches of the humerus through a longitudinal incision extending from the acromion process about nine inches down the anterior aspect of the humerus. All of the periosteum was dissected back from the humerus, which was sawed off seven and one-half inches from the glenoid cavity and about one-quarter inch below the lowest bony sinus, which is shown in photograph No. 1.

The structure through which the long incision was made consisted of a mass of cicatricial and fibrous tissues, all of the muscular fibres having degenerated as a result of this old inflammatory and suppurative process. The head of the humerus was thoroughly diseased and firmly ankylosed with the glenoid cavity. After disarticulating the head of the bone the glenoid cavity was thoroughly curetted, which removed all of the diseased bone. The hemorrhage was profuse ; many ligatures and hot water were freely used. A counter drainage was made in the axilla and a drainage-tube was inserted. The long anterior incision was closed with interrupted sutures of silkworm-gut after inserting a drainage-tube extending the entire length of the wound, with free openings at either end. The wound healed firmly in about four weeks, and has remained so up to the present time, about nine months. After applying antiseptic dressings the arm was bandaged firmly to the side and held in a fixed position by means of plaster-of-Paris bandages. There was little or no shock following the operation, and the patient made a rapid and uneventful recovery.

The tissues above the proximal end of the humerus have contracted several inches ; considerable bone has formed from the periosteum, which was left in ; this has stiffened the arm considerably and gives the patient a very useful arm.

Photograph No. 2 shows a sequestrum of bone surrounded by a reparative shell of bone newly formed from the uninjured periosteum. The sequestrum evidently represents the result of the original disease in the shaft of the humerus twenty-five years ago.

FIG. 1.

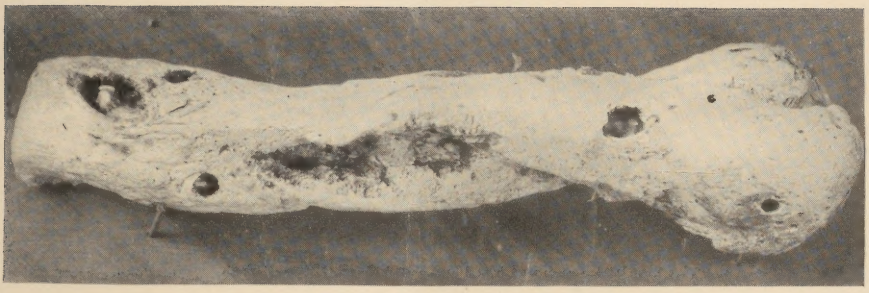

FIG. 2.